REMARKS

Reconsideration and withdrawal of the rejections of this application and consideration and entry of this paper are respectfully requested in view of the herein remarks and accompanying information, which place the application in condition for allowance.

I. STATUS OF CLAIMS AND FORMAL MATTERS

Claims 1, 3-5 and 19-20 are under consideration. Claim 2 has been canceled without prejudice. Applicant reserves the right to pursue the subject matter of the canceled claim in a continuing application.

Claims 1 and 3-5 have been amended without prejudice, without admission, without surrender of subject matter, and without any intention of creating any estoppel as to equivalents. No new matter has been added by these amendments.

The Examiner is thanked for withdrawing the rejections of claims 1-5 under 35 U.S.C. §101.

It is submitted that the claims herewith are patentably distinct over the prior art, and these claims are in full compliance with the requirements of 35 U.S.C. §112. The amendments to the claims presented herein are not made for purposes of patentability within the meaning of 35 U.S.C. §§§§ 101, 102, 103 or 112. Rather, these amendments and additions are made simply to clarify the scope of protection to which Applicant is entitled.

II. THE REJECTION UNDER 35 U.S.C. §112, FIRST PARAGRAPH, IS OVERCOME

Claims 1-5 and 19-20 are rejected under 35 U.S.C. §112, first paragraph because the specification allegedly lacks enablement. The Office Action of June 16, 2006 (hereinafter "the Office Action") cites three primary issues regarding this lack of enablement. (a) the Office Action contends that "while the specification teaches one kind of oligodendrocyte developmental disorder, i.e., hypomyelinosis of the thalamus, the specification does not teach other kinds of oligodendrocyte developmental disorder such that the claim is enabled for its breadth." (b) the Office Action remains unconvinced that the specification provides support for Huntington's disease as a phenotype exhibited by the claimed mice, stating that the argument presented in the March 27, 2006 response to the December 30, 2005 Office Action "is not persuasive because the etiology and pathology of Huntington's disease does not depend on DAP12" and that "nothing in

the art of the specification indicates a relationship between DAP12 and Huntington's disease." (c) the Office Action alleges that "only homozygous DAP12 disrupted mice were enabled" and that "the claims encompass heterozygous mice, wherein the heterozygous mice exhibit a phenotype" but "nothing in the specification provides this support."

Addressing (a), the Examiner asserts that while the specification teaches one type of oligodendrocyte disorder, i.e., hypomyelinosis of the thalamus, the specification allegedly does not provide guidance to other types of oligodendrocyte disorders that exhibit the same phenotype. Although Applicant does not agree with the Office Action, in the interest of expediting prosecution, claim 1 has been amended to recite "transgenic mouse model showing hypomyelinosis of the thalamus wherein..." rather than "transgenic mouse model of oligodendrocyte developmental disorders wherein..." In addition, claim 3 has been amended such that the term "oligodendrocyte developmental disorder" has been removed, and the myelinogenesis developmental disorder and neuropsychiatric disorder are introduced as phenotypic exhibitions of the disruption to DAP12. Support for these amendments can be found, for example, on page 3, lines 21-31, page 4, lines 5-6, and Example 5.

Regarding (b), the Examiner alleges that the specification lacks enablement for Huntington's disease as a phenotype exhibited by the claimed mice because the etiology and pathology of Huntington's disease does not depend on DAP12. Claim 4 is amended to exclude Huntington's disease from the list of neuropsychiatric disorders.

Concerning (c), the Examiner states that only homozygous DAP12 disrupted mice were enabled and that the specification does not enable the inclusion of heterozygous DAP12 mice. While the Applicant is in disagreement to this allegation, claim 1 has been amended to recite "a homozygous disruption in chromosomal DAP12" rather than "a disruption in chromosomal DAP12." In addition, claim 3 refers to a homozygous disruption in DAP 12. Support for these amendments can be found in the specification on page 6, line 27 - page 7, line 23, and Examples 1-3.

Accordingly, the presently claimed invention is enabled by the originally-filed specification with respect to (a), (b), and (c). Therefore, reconsideration and withdrawal of the rejections under 35 U.S.C. § 112, first paragraph, are respectfully requested.

III. THE REJECTION UNDER 35 U.S.C. §102 IS OVERCOME

The Office Action maintains its rejection of claims 1 and 3-5 and asserts its rejection of claims 19-20 under 35 U.S.C. §102 as allegedly being anticipated by Bakker et al., 2000, Immunity 13:345-353 (hereinafter "Bakker"). The Office Action maintains its rejection of claims 1 and 3-5 and asserts its rejection of claims 19-20 under 35 U.S.C. §102 as allegedly being anticipated by Tomasello et al., 2000, Immunity 13:355-364 (hereinafter "Tomasello"). The Office Action maintains its rejection of claims 1 and 3-5 and asserts its rejection of claims 19-20 under 35 U.S.C. §102 as allegedly being anticipated by Vivier et al., US publication No. 2004/0045041, which was filed September 20, 2000 and published March 4, 2004 (hereinafter "Vivier"). The rejections are respectfully traversed.

The Applicant respectfully reiterates the statements of Chapter 2131 of the MPEP that "[a] claim is anticipated only if **each and every element** set forth in the claim is found, **either expressly or inherently** described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)." Furthermore, for a proper anticipation rejection, the reference "must **clearly and unequivocally disclose** the claimed compound or direct those skilled in the art to the compound without any need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference." See *In re Arkley*, 455 F.2d 586, 587, 172 USPQ 524, 526 (CCPA 1972) (emphasis added). The references cited in this Office Action do not teach each and every element or clearly disclose the methods that are set forth in the claims of the present invention.

The Office Action states that "claim 1 (and its dependent claims) is drawn to a transgenic mouse comprising a disruption in chromosomal DAP12" and that Bakker, Tomasello, and Vivier "teach mice whose genome fits this limitation." In addition, the Examiner asserts that Bakker, Tomasello, and Vivier "fit the structural limitation of the claims and therefore would inherently exhibit the same phenotypes as the claimed mice." In response, the Applicant has amended claim 1 to specify "homozygous disruption includes the promoter region and exons 1, 2, and 3." Support for this amendment is in Example 1.

As such, claim 1 and its dependent claims describe a specific mutation that differs from the mutations described by Bakker, Tomasello, and Vivier. Bakker, in order to determine the roles of DAP12 receptor complexes in natural killer and myeloid cells, generated DAP12-

deficient mice with a deletion in exons 3 and 4 of DAP12. Both Tomasello and Vivier, who were interested in studying the alterations of natural killer and dendritic cell subsets observed in DAP12 loss-of-function mutant mice, generated KΔY75/KΔY75 mice with a mutation, according to Figure 1, only in exon 5 of DAP12. To reiterate our response to the Office Action of December 30, 2005, it is well known that different mutations in the same gene can generate very different phenotypes, as exemplified by the RET proto-oncogene (see Eng C. et al, 1996, JAMA 276:1575-9). Therefore, it remains uncertain whether the transgenic mice described by Bakker, Tomasello, and Vivier exhibit the same phenotype as the transgenic mice of the present invention, i.e., hypomyelinosis of the thalamus or even Nasu-Hakola disease. Thus, the methods taught by Bakker, Tomasello, and Vivier do not **clearly and unequivocally disclose** the method of generating transgenic mice that will exhibit hypomyelinosis of the thalamus or Nasu-Hakola disease, and thereby does not anticipate the present invention. Accordingly, reconsideration of the rejection of claims 1, 3-5, and 19-20 under 35 U.S.C. §102 is respectfully requested.

REQUEST FOR INTERVIEW

If any issue remains as an impediment to allowance, a further interview with the Examiner and SPE are respectfully requested and the Examiner is additionally requested to contact the undersigned to arrange a mutually convenient time and manner for such an interview.

CONCLUSION

In view of the remarks and amendments herewith, the application is believed to be in condition for allowance. Favorable reconsideration of the application and prompt issuance of a Notice of Allowance are earnestly solicited. The undersigned looks forward to hearing favorably from the Examiner at an early date, and, the Examiner is invited to telephonically contact the undersigned to advance prosecution.

Respectfully submitted,
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